#### DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection

Bay Area Branch 690 Walnut Ave.St. 150 Vallejo, CA 94592-1133 (707) 649-5453 (707) 649-5493



Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 69.28

## WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter **Report No:** WIR-018650 Address: 333 Burma Road **Date Inspected:** 21-Oct-2010

City: Oakland, CA 94607

**Project Name:** SAS Superstructure **OSM Arrival Time:** 1500 **OSM Departure Time:** 300 **Prime Contractor:** American Bridge/Fluor Enterprises, a JV

Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** ShangHai, China

**CWI Name:** Tian Lei **CWI Present:** Yes No **Inspected CWI report:** Yes N/A **Rod Oven in Use:** Yes No No N/A N/A **Electrode to specification:** Yes No **Weld Procedures Followed:** Yes No N/A N/A **Qualified Welders:** Yes No **Verified Joint Fit-up:** Yes No N/A N/A Yes N/A **Approved Drawings:** Yes No **Approved WPS:** No Yes No N/A **Delayed / Cancelled:** 

34-0006 **Bridge No: Component:** OBG

## **Summary of Items Observed:**

Summary of Items Observed: On this date Caltrans OSM Quality Assurance(QA) Inspector, DJ Shin was present during the times noted above for observations relative to the work being performed.

#### Bay 1

This QA Inspector observed the following work in progress for Bay 1.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Zhu Lin.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS).

Listed below are the locations that were identified by this QA inspector.

Components: Barrier Rail PCMK: E2-SB5-019 Welder: 059450 WPS-B-T-2132-3

Heat straightening of PCMK, E2-SB1-009, under approved Heat Straightening procedure, HSR 1(B)-9389, 20TR2-049 with HSR (B)-362, The in process temperature was at the time of this observation witnessed at less than 600°C. The ZPMC QC was identified as Zhu Lin. The approved HSR procedure stated that a maximum temperature of 600°C with 1-3 applications. The distortion that was previously measured and recorded on the HSR was Maximum 13mm.

(Continued Page 2 of 5)

Bay 2

This QA Inspector observed the following work in progress for Bay 2.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Zhu Lin.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS). Listed below are the locations that were identified by this QA inspector.

Components: Floor Beam PCMK: FB3325-001-023~026

Welder: 201583 WPS-B-T-2132-3

PCMK: FB3343-001-244

Welder: 045227

WPS-B-T-2233-TC-U5-F

PCMK: FB3343-001-279

Welder: 045240

WPS-B-T-2233-TC-U5-F

Heat straightening of PCMK, SA3400-001, under approved Heat Straightening procedure, HSR (B)-430, FB3328-001 with HSR (B)-429, The in process temperature was at the time of this observation witnessed at less than 600°C. The ZPMC QC was identified as Zhu Lin. The approved HSR procedure stated that a maximum temperature of 600°C with 1-3 applications. The distortion that was previously measured and recorded on the HSR was Maximum 45mm and 60mm.

### Bay 3

This QA Inspector observed the following work in progress for Bay 3.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Zhang Ya Xu.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS). Listed below are the locations that were identified by this QA inspector.

Components: Floor Beam PCMK: FB3286-001-027

Welder: 055491

WPS-B-T-2232-TC-U5-F

PCMK: FB3286-001-048

Welder: 044830 WPS-B-T-2132-3

PCMK: FB3286-001-062

Welder: 050242

(Continued Page 3 of 5)

WPS-B-T-2132-3

PCMK: FB3286-001-155

Welder: 055564 WPS-B-T-2132-3

Heat straightening of PCMK, SA3359-001-001, under approved Heat Straightening procedure, HSR 1(B)-9650, The in process temperature was at the time of this observation witnessed at less than 600°C. The ZPMC QC was identified as Zhang Ya Xu. The approved HSR procedure stated that a maximum temperature of 600°C with 1-3 applications. The distortion that was previously measured and recorded on the HSR was Maximum 45mm and 60mm.

#### Bay 4

This QA Inspector observed the following work in progress for Bay 4.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Zhang Ya Xu.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS). Listed below are the locations that were identified by this QA inspector.

PCMK: SA3359-001-001

Welder: 206623 Report: B-WR16081

WPS-345-FCAW-1G (1F)-Repair-1

This QA inspector performed Magnetic Particle Testing (MT) and Visual Inspection (VT) of approximately 15 % of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT report for this date. The member(s) is/are identified as follows; SA3358, SA3360, SA3362, SA3364 for item number 1 on NWIT tracker document # 07056.

### Bay 6

This QA Inspector observed the following work in progress for Bay 6.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Huang Min.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS). Listed below are the locations that were identified by this QA inspector.

Components: Cross Beam PCMK: CB3002L-018-112

Welder: 048625

WPS-B-T-2233-TC-P4-F

PCMK: CB3002L-018-136

Welder: 053742

WPS-B-T-2233-TC-P5-F

(Continued Page 4 of 5)

PCMK: CB3002L-018-092

Welder: 205386

WPS-B-T-2233-TC-P5-F

PCMK: CB3002L-018-073

Welder: 051246

WPS-B-T-2233-TC-P5-F

PCMK: CB3002L-018-046

Welder: 053609

WPS-B-T-2233-TC-P5-F

Bay 7

This QA Inspector observed the following work in progress for Bay 7.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Wang Liang.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS).

Listed below are the locations that were identified by this QA inspector.

Components: Barrier Rail PCMK: W2-SB9-024-51~56

Welder: 062447 WPS-B-T-2132-3

PCMK: W2-SB9-025-116~121

Welder: 215689 WPS-B-T-2132-3

Bay 8

This QA Inspector observed the following work in progress for Bay 8.

ZPMC was using the Flux Core Arc Welding (FCAW) process.

ZPMC QC is identified as Wang Liang.

Welding variables recorded by QC appeared to comply with the approved Welding Procedure Specification (WPS).

Listed below are the locations that were identified by this QA inspector.

Components: Bike Path PCMK: BK004A6-053-050

Welder: 500479 WPS-B-T-2132

Bay 10

ZPMC perform grinding work on BK004-007.

(Continued Page 5 of 5)

Bay 11

ZPMC perform grinding work on West Jacking Frame.

Blasting Shop # 2

QA inspector has performed visual inspection on interior of elevation 99 meter to top end of Tower Lift # 3-North Side

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.





## **Summary of Conversations:**

No relevant conversations

#### **Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Shin,DJ	Quality Assurance Inspector
Reviewed By:	Carreon, Albert	QA Reviewer